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ABSTRACT

An emerging issue in teacher education is the essential knowledge that is a prerequisite to successful pedagogical and subject matter instruction. Skills in communication, both oral and written, and computation are critical areas which must be sufficient for further instruction. This paper addresses the issues of responsibility for developing and using admission tests, cost of tests, legal and/or moral responsibilities to the profession and societal implications of admission testing. Various kinds of tests are discussed--basic skills, norm referenced, and criterion referenced. (Author/JD)

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Basic Skills Tests in Teacher Education:

A Shift from the Three R's to the Two C's

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Introduction

Teacher education programs are presently undergoing a metamorphosis. These changes are being precipitated by the demands of various publics. These publics, often in the form of legislative bodies, educational commissions, state regulatory agencies charged with issuing teaching credentials, and teacher education groups, became concerned about the overall decline of standardized test scores of public school students. Further investigation of this decline (National Center for Education Statistics, 1982) revealed a significant decline in the academic ability of students who indicated they planned to teach.

Attempts were made to improve the quality of prospective teachers and to increase the competence of those already teaching. Many states adopted reform aimed at increasing standards in preparation programs, providing more assistance in the form of some type of internship for beginning teachers and providing mandatory inservice for those already teaching. Certain publics demanded a quantitative measure which would indicate the probable success of prospective teachers. In most cases, this demand initially resulted in an exit test which must be passed before certification (Sandefur, 1984). This solution was perceived as limiting the number of unqualified teachers being licensed by the states. The establishment of output standards soon led to the question of minimum standards at the input level of teacher education programs. The thought of actions which could and would

limit the number of students in teacher education in programs caused great concern among those responsible for these programs. Nevertheless, publics outside teacher education programs, more often state departments of education instead of legislative action, (Sandefur, 1984) imposed requirements which would limit the more than 100,000 prospective teachers which graduate each year from over 1,200 colleges and universities in the United States (Cruickshank, 1985).

Historically, teacher education institutions have claimed selective admission to teacher education programs. Research (Carpenter, 1973) found that only 17% of 180 randomly selected members of the American Association of Colleges for Teacher Education used an examination score as a criteria for admission. The test most frequently used was the Minnesota Teacher Attitude Inventory. However, the most frequently used criteria were grades, interviews, and letters of recommendations.

Since 1977, the admission criteria have been increased and the emphasis has been focused upon the use of tests as screening devices for admission to teacher education programs. This shift in emphasis is reflected by a 1984 American Association of Colleges for Teacher Education survey which found that 64% of all reporting institutions used screening tests for admissions to teacher education programs (AACTE, 1984). This is consistent with other research (American Council on Education, 1985) which found that over half of the public institutions and over 48% of the

private institutions have screening tests for admission to teacher education. The largest area of testing was in the area of basic skills tests. The basic skills required to pass the test were in the areas of communication (writing and reading) and computation (mathematics).

This emphasis upon basic skills testing has increased to the present level (see Appendix A). Sandefur further states that the 1980's reflect the greatest increase in the use of testing as a criteria for admission to teacher education programs.

The first major issue which states must address is the choice between norm-referenced or criterion referenced test. Other vital issues such as legal implications, cost, validity, reliability, utility, fees, registration procedures, minimum scores, and reporting cannot be addressed until a state makes an analysis of the strengths and weaknesses of both types of tests and is willing to adopt the type of test which offers the advantages most consistent with the philosophical base supporting the use of basic skills tests.

Norm-Referenced or Criterion Referenced

When planning the test, a state may adopt either the characteristics of norm-referenced test, which is based upon some general descriptions of subject matter topics and process skills. A criterion-referenced test, which is based upon specific, identifiable behaviors to provide the basis for one or more related test items. These specific behaviors are often described

by practitioners as being essential for success in their specific profession.

The construction of norm-referenced tests is designed to maximize discrimination among students with about thirty to seventy percent of the students able to answer the items correctly. By contrast, a criterion-referenced test is designed to measure proficiency for a specified task. These criterion-referenced test items vary in difficulty, but are generally regarded as "mastery" test items which most students can correctly answer.

The interpretation of a norm-referenced test focus upon how a student's total score compares with the total score of other students within the group. This comparison is often reported in terms of relative standing. Criterion-referenced tests report on the sub-areas of the test which provides specific information about a student's proficiency in regard to certain skills. This proficiency is reported in reference to the specific, identifiable behaviors which serve as the basis for that particular sub-area. This report is often in terms of pass or fail. Therefore, a student's status with respect to established standards of performance is ascertained, thereby, determining what he or she knows and can do.

The variability of norm-referenced tests is dependent upon the relative position of the score in comparison with other scores which means more variability of spread of the scores enhances

interpretation of each individual student's score. Variability in criterion-referenced tests is often minimal. This is due to the fact that the meaning of an individual student's score does not depend upon comparison of other scores. Its meaning is directly established by the relationship between the items and the criteria upon which the items were based.

This discussion of the dimensions of norm-referenced and criterion-referenced tests has demonstrated that there are situations for which norm-referenced tests are most appropriate. However, entrance to a teacher education program is not one of these situations. Basic skills tests are designed to ensure that only those individuals with certain specified capabilities be permitted to pursue a professional program in teacher education. Those students not demonstrating these capabilities must improve their qualifications to a minimum level of acceptability before they will be permitted to enroll in specific teacher education courses. Three necessary characteristics appear to emerge from this brief definition.

1. The test must measure specified skills, competencies, and knowledge. These characteristics must be job-related; i.e., they must reflect specifically determined on-the-job teaching requirements.
2. A basic skills test is a form of basic (essential, minimum) competency test. The purpose is to compare candidates with a threshold standard, not with one

another.

3. The test should be diagnostic to some degree. Score reporting must enable the candidate to know his or her particular areas of strength and weakness. Likewise, institutions should benefit from the diagnostic information on their students.

These characteristics indicate that to increase the validity of any test used in screening students who are seeking admission to a teacher education program, a group, usually a state, must select to use a criterion-referenced test. The strengths of criterion-referenced tests will be delineated. Job-relatedness is the primary characteristic of a criterion-referenced test. Equal Employment Opportunity Commission regulations are explicit regarding the relationship between a screening test and the job. Moreover, the American Psychological Association (Novich, 1985) states that the performance domain must be specified in terms of the objectives of measurement, which must be restricted to the critical, most frequent, prerequisite work behaviors. The test developer or user is accountable for the adequacy of his definition. Therefore, the content validity of a test is dependent upon the demonstratibility of the important aspects of an employment situation. This means the criterion-referenced test must measure specific performance objectives which are based upon the basic skills that practitioners have identified as being essential for success as a teacher. Thusly, teachers will have

documented the essential knowledge necessary for job performance in their school. By limiting the parameters of the survey to a particular state, the data would assure that the basic skills test is based upon and measures the particular employment related skills relevant in that state. This procedure was used (Yalow and Popham, 1983) in Texas to validate a basic skills test. Most educators would probably find a mismatch between the typically global domain specifications of norm-referenced tests and the basic skills required for success as a teacher.

A basic skills test should provide professional educators and the public with evidence of the essential knowledge of prospective teachers. A basic skills test should not be oriented toward distinguishing among individuals (as a norm-referenced test would be), rather it is oriented toward identifying those prospective teachers who meet specified standards and objectives. Since these standards and objectives are based upon a task/job analysis survey, a criterion-referenced test would measure minimum competency. Those who are admitted to teacher education are identified as being at least minimally competent.

The diagnostic characteristics of criterion-referenced tests offer another desirable features. By providing information to the university regarding strengths and weakness of its teacher education students, a typical student profile can be developed. These sub-area scores may not be appropriate for determining the pass or fail status of an individual, but each prospective teacher

can learn of his/her strengths and/or weaknesses and develop individual plans of academic preparation based upon scores of sub-areas. A norm-referenced test would not provide this information.

Once the decision to develop a criterion-referenced test has been reached, states must decide to develop the procedures for writing a test, using a testing company to develop one, or utilizing an already existing test.

State Wide Test by a Testing Company

One approach considered by some states is to employ a testing company to develop a state-wide test of basic skills which could be used in all higher education institutions within the state. This technique, which utilizes professionals with expertise, time, equipment and information to develop a test over state-mandated areas, would meet EEOC guidelines while determining the necessary minimum score. Score reports, as well as having all materials provided would be advantages from this approach. Development time, cost (probably between \$25,000 and \$35,000), and the lack of comparative data between states are factors which appear to be detrimental to this approach. However, the greatest obstacle is the factor related to the ownership of the test. Dates and sites of administration, cost per student, and registration/reporting problems would cause institutions and states to lose autonomy over their own testing program.

Available Tests Designed for Other Purposes

There are several tests already being used at institutions which offer the potential to be used as a screening device for admission to a teacher education program. Tests such as the ACT or SAT are tests commonly required for admission to institutions. These tests have national data and can be categorized according to almost any identifiable variable. Other tests such as the STEP or Nelson-Denny offer lower cost and can be scheduled, scored, and controlled by the institution. Conversely, the use of these tests as criteria for admission to a professional school is the type of misuse that does not meet EEOC guidelines and shall surely result in a successful legal challenge by a student who was denied admission based upon his/her test score. Also, the test company will not provide a minimum score, there is no writing test, and there has been no evidence that any of these tests are effective predictors of teacher effectiveness. The STEP is not appropriate for college level students. The Nelson-Denny Reading test is not a secure test. Copies can be obtained without university or public school stationery being used in the request. ACT or SAT scores are often taken while students are still in high school. This does not allow for individual growth greater than the norm group's growth.

Develop State Test

Each state could develop its own test for use by institutions

in that state. The resulting test would cover the required areas and the developing state would have total control of admission sites and dates, reporting format, minimum score allowed, and states could utilize the testing experts on various campuses to ensure that the test meets EEOC guidelines. The development of a state test would create many concerns. The primary concern would be the amount of time it would require to write, field test, and develop a test of this magnitude. Using professionals from various institutions would require a minimum of two to three years. The cost (institutional or state), coordination for printing, registration, administration, security, etc., would require an agreement between various institutions (both public and private) and would require some centralized office and/or board to make policy decisions. There would be no data for national comparison and the public might perceive the test as a sham since the group developing and administering the test has a vested interest in the number of students eliminated.

Comerically Developed Basic Skills Test

A basic skills test, such as the Pre-Professional Skills Test, offers unique advantages as an admission test to a teacher education program. This test covers communication (both reading and writing) and computation (mathematics). Statewide adoption by more than 20 states can provide national and regional data. Subgroup scores are available by area. Registration materials are

provided by the company with university administration. Help can be provided to establish minimum scores. This test, like most commercially prepared tests, meets EEOC Guidelines. However, the cost (\$30.00 per student), the minimum number of applicants per testing site, and length of time before scores are reported to the institutions are undesirable characteristics of most of the most commercially developed basic skills test.

Findings, Implications, Legal Considerations, and Recommendations

States vary considerably in the types of policies they use to screen individuals entering the teaching profession. Each state must approve of the teacher education programs at each institution. Most states have recently enacted policies designed to assess the capabilities of those wishing to become teachers. Yet states differ in the criteria for admission, assessments made, type of skills assessed, source of assessment and the criteria used to establish the minimum standards. Despite this wide disparity of the functions of basic skills tests, there appears to be an increase in the number of states (Holmstrom, 1985) who are using some type of basic skills test as a screening device for admission to teacher education.

The assessment results of basic skills tests identify areas not commonly taught in teacher education programs. These areas (communication and computation) are the result of the efforts, or lack of effort, of a career in the public schools, at least one

year of college and individual learning situations. It would be just as erroneous for teacher education programs to take credit for the student who passes a basic skills test as it is for anyone to attempt to make teacher education accountable for failure on a basic skills test.

The diagnostic nature of criterion-referenced tests provides an excellent opportunity for specific plans of remediation. However, there appears to be little incentive, and often no funds, for the implementation of a program which could be beneficial to students who enter college lacking in the essential skills necessary to become a successful student. The lack of funds for a comprehensive remediation program, combined with the tendency to blame teacher education for failure of sophomore students, may lead to a situation where an institution may be forced to tutor students to pass a screening test (Heger and Salinger, 1985).

Those states which require screening tests are convinced that a student must have a commitment to the teaching profession to be willing to take such a test. This view of strengthening programs by making students take a more serious approach has its casualties. Prospective teacher education students who had a weak secondary school preparation and those adults returning to college or making a career change will also suffer. Such a screening program is contradictory to the open-admissions policy of many institutions (Goetz, Ehstrom, and Coley, 1984) Further analysis of the failure rate presents a more serious problem. The overall

passing rate for Texas students in one year of screening testing varies from fifty-two to sixty-four percent (Ishler, 1985). However, these passing rates obscure considerable variation across racial/ethnic groups. Texas gave its first PPST test in March of 1980. The passing rate for black candidates was 12 out of 126; 84 out of 436 Hispanic candidates; 20 out of 43 Asian, Native American and other minority candidates; and 1,324 out of 2,133 Anglo candidates qualified to enter a teacher education program in Texas. There were 1,440 candidates passing all three sections of the Texas admission test. Projections for the state of Texas indicate that blacks will continue less than 1%; Hispanics, 5.8% and other minorities, 1% of teacher education graduates in 1986 (Smith, 1984). As Texas teachers retire there will be fewer minority teachers available for employment in the schools of Texas. Similar patterns can be described from test results in other states. This situation will become more intensified as minority enrollment, which presently exceeds 50% in New Mexico and Mississippi, is expected to reach 50% by 2000 in California, Louisiana, South Carolina, Alabama, Arizona, Georgia, Florida and North Carolina. This means that the average student can expect only two out of the forty teachers he/she will encounter during his/her public school years to be a minority. The program effects of this predicted decline in minority students will have tragic effects upon the teacher education programs of some institutions. The present situation, which includes public information of test

scores, will escalate into a situation where the state's continued approval of a teacher education program (like the situation in Florida) is dependent upon the test score of its students.

The predictive validity of a test is related to the accuracy of determining who would be expected to succeed or fail in professional practice. This determination is based upon data collected from a test. Admission tests must be required to have predictive validity. The Supreme Court ruled that test criteria used must represent critical work or job behavior as determined by those who are performing the job. This decision, which was based upon conditions in industry, is used in the Uniform Guidelines on Employee Selection Procedure and is applicable for all screening tests.

The requirement that students not be allowed to take certain courses (those courses restricted to those students who have been admitted to teacher education) will survive a legal challenge provided it can be shown that students have had opportunities to learn what on the test and that the test measures skills essential for success in the classroom. The minimum score must separate those who are functional and non-functional in the area of basic skills. There must be no arbitrary decisions. The United States Supreme Court ruled that the state has the right to adopt academic requirements and use written tests designed and validated to disclose the minimum amount of knowledge necessary for effective teaching (Pillin, 1981). This statement implies that criterion-

referenced tests, which do not guarantee failures, are more likely to be legally acceptable than norm-referenced tests. However, this statement only applies to tests which have been carefully validated.

Everyone is in favor of God, motherhood, apple pie and quality teaching. Unfortunately, quality teaching is a very complex issue which cannot be implemented by simple methods. The following recommendations are based upon the ideas presented in this paper:

1. Basic skills tests are presently being required of students in most teacher education programs in the United States. This requirement, once implemented, will most likely remain a part of teacher education programs. Just as a formal admission policy was slowly developed and implemented, so will basic skills tests so will basic skills tests become a part of teacher education programs. These basic skills tests, if properly developed and validated, can become an integral part of teacher education in America (Anrig, 1986).
2. Properly designed basic skills tests will withstand legal challenges by various groups. Each state that is implementing the use of basic skills tests for screening candidates who apply for admission to

teacher education programs should assume that there will be legal challenges based upon denial of some area of individual rights. The test must be designed to measure the skills essential for successful teaching. Admission tests can be designed so that faculty who teach teacher education courses, as well as the practitioner, have identified the items on the test as being requisite for success as a student and a teacher.

3. Teacher educators need to develop an active posture toward producing quality. Most improvements in teacher education programs are developed in response to actions taken by groups outside teacher education. This defensive posture, combined with the low opinion of teacher education programs on many campuses, reinforces the idea that teacher education is unimportant, inadequate, and produces inferior products. Teachers and educators must work to improve the setting in which their graduates work. Corrigan, (1985), as well as Schlechty and Vance (1983), emphasize this improvement as being critical to the attraction of quality students who can become successful teachers. Some institutions may fear improvement of the public schools would lead to a decline in teacher vacancies and would

limit potential job opportunities for their graduates.

4. The opportunity for real improvement is now. Basic skills testing claims to offer a simple solution to a very complex problem. It is not a panacea to the quality control problems which are presently restructuring teacher education and lowering the number of freshmen who are choosing education as a profession (American Council on Education, 1986). Basic skills testing provides the opportunity to make changes which will result in better teachers. If teacher educators do not seize this opportunity to develop research-based teacher education programs to improve the quality of students in teacher education programs, we have ourselves to blame. Opportunity is a challenge or a hinderance. The choice belongs to those of us charged with administering teacher education programs.

Table 1
States Mandating Competency Assessment of Teachers—1984

	Mandate	Date	Level	Skills Tested					Type of Tests		
State	Legislative	St. Bd. of Educ.	Mandated/Implemented	Admissions	Certification	Basic	Professional	Academic	On-the-job	National Std.	Customized
Alabama		X	80/81	X	X	X	X	X		X	X
Arizona	X	X	80/81	X	X	X	X				X
Arkansas	X	X	79/83		X	X	X	X		X	X
California	X		81/83	X	X	X		X		X	X
Colorado	X		81/83	X		X				X	
Connecticut		X	82/83	X	X	X	X	X		X	X
Delaware		X	82/85		X	X				X	
Florida	X		78/80	X	X	X	X		X		X
Georgia		X	75/78		X			X	X		X
Hawaii**		X	84/85			X	X	X		X	
Indiana	X		84/85	X	X	X	X	X		X	
Kansas	X		84/86		X	X	X			X	
Kentucky	X	X	82/83-85	X	X	X	X	X	X	X	
Louisiana	X		77/78		X	X	X	X		X	
Maine	X		84/88		X	X	X	X		?	?
Massachusetts		X	79/82		X	X	X	X			X
Mississippi	X	X	82/86	X	X	X	X	X	X	X	
Missouri		X	83/84	X		X				X	
Nebraska	X		84/85	X	X	X		X	X	?	?
Nevada		X	84/86	X	X	X		X	X	X	
New Hampshire		X	84/85		X	X				X	
New Jersey		X	84/85		X		X	X		X	
New Mexico	X	X	81/83	X	X	X	X	X		X	
New York		X	83/84		X	X	X			X	
North Carolina		X	79/82	X	X	X	X	X	X	X	
Oklahoma	X		80/82		X	X	X	X	X		X
Oregon		X	82/85	X	X	X				X	
Pennsylvania		X	84/87		X	X	X	X	X	?	?
Rhode Island		X	80/81		X			X			X*
South Carolina	X		79/83	X	X	X	X	X	X	X	X
Tennessee		X	79/79	X	X	X	X	X		X	
Texas	X		81/84-86	X	X	X	X	X	X	X	X
Utah		X	79/80	X		X				X	
Vermont		X	80/82		X		X	X	X		X
Virginia	X		80/85		X	X	X	X	X	X	X
Washington		X	78/83	X		X				X	X
West Virginia		X	82/85		X	X	X	X		X	X
Wyoming		X	82/82	X		X				X	
TOTALS-38	17	26		21	32	34	25	26	13	28	16

* Vocational teachers only.

** Hawaii uses competency tests for employment only, not for admission or certification.

Source: Sandefur, J.T. "State Assessment Trends". AACTE Briefs, Washington, D.C. March, 1985. p. 22

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